Electronic Version
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Claims

[c1] 1.A method of maintaining an initial bias of an x-ray detector comprising:
setting the initial bias of the x-ray detector;
altering an operating state of a readout circuit; and
adjusting a photodiode common contact voltage potential by a data line drift amount to approximately maintain the initial bias.

[c2] 2.A method as in claim 1 further comprising maintaining scan circuitry in an active state.

[c3] 3.A method as in claim 1 wherein adjusting a photodiode common contact voltage potential is performed by adjusting said photodiode common contact voltage potential by an amount approximately equal to an average change in a plurality of detector data line voltage potentials.

[c4] 4.A method as in claim 1 further comprising:
determining whether conditions for powering down said readout circuit have been satisfied;
powering OFF said readout circuit and adjusting said common contact voltage potential in response to said

determination; and
clamping data line voltage potential.

[c5] 5.A method as in claim 1 further comprising:
powering ON said readout circuit; and
adjusting said photodiode common contact voltage potential to an initial common contact voltage potential.

[c6] 6.A method as in claim 1 wherein adjusting said photodiode common contact voltage is performed when a power state of said readout circuit is altered.

[c7] 7.A method as in claim 1 further comprising:
measuring an error signal; and
readjusting said common contact voltage potential when said error signal is above a predetermined level.

[c8] 8.A method as in claim 1 of determining data line drift within an x-ray system comprising:
establishing initial bias conditions;
scrubbing at least one detector until said at least one detector reaches equilibrium;
altering operating state of at least one readout circuit without altering a common contact potential; and
measuring data line drift.

[c9] 9.A method as in claim 8 further comprising determining an average error signal for a plurality of data lines.

[c10] 10.A method as in claim 8 wherein establishing initial bias conditions, scrubbing at least one detector, and altering operating state is performed via a controller.

[c11] 11.An x-ray imaging system comprising:
a detector having a plurality of pixels comprising;
at least one data line; and
a common contact at a common contact voltage potential;
a readout circuit electrically coupled to said at least one data line and having a plurality of power states; and
a controller electrically coupled to said readout circuit, detecting a change in operating state of said readout circuit, and adjusting voltage potential of said common contact in response to said change in operating state.

[c12] 12.A system as in claim 11 wherein said controller adjusts voltage potential of said common contact in response to change in power state of said readout circuit.

[c13] 13.A system as in claim 11 wherein said controller in adjusting voltage potential of said common contact maintains a scanning circuit in an active state.

[c14] 14.A system as in claim 11 wherein said readout circuit comprises a plurality of integrators determining charge across a plurality of photodiodes.

[c15] 15.A system as in claim 14 wherein said controller adjusts voltage potential of said common contact in response to said charge.

[c16] 16.A system as in claim 11 wherein said readout circuit comprises:
at least one integrator electrically coupled to said plurality of pixels; and
a protection element electrically coupled to said integrator and conducting when said integrator is in a powered OFF state.

[c17] 17.A system as in claim 12 wherein said protection element clamps voltage potential of at least one data line.

[c18] 18.A system as in claim 12 wherein said controller detects said change and adjusts common contact voltage potential in response to power state of said integrator.

[c19] 19.A system as in claim 11 wherein said controller continuously adjusts common contact voltage potential to maintain an initial detector bias.

[c20] 20.A system as in claim 11 wherein said controller enables x-ray image acquisition when voltage potential magnitude of an error signal is below a predetermined level.